WHAT IS CLAIMED IS:

1. A method of identifying an estimate for a noise-reduced value representing a portion of a noise-reduced speech signal, the method comprising:

decomposing a portion of a noisy speech signal into a harmonic component and a random component;

determining a scaling parameter for at least the harmonic component;

multiplying the harmonic component by the scaling parameter for the harmonic component to form a scaled harmonic component;

multiplying the random component by a scaling parameter for the random component to form a scaled random component; and

summing the scaled harmonic component and the scaled random component to form the noise-reduced value.

2. The method of claim 1 wherein decomposing a portion of a noisy speech signal comprises modeling the harmonic component as a sum of harmonic sinusoids.

3. The method of claim 2 wherein decomposing a portion of a noisy speech signal further comprises determining a least-squares solution to identify the harmonic component.

4. The method of claim 1 wherein determining a scaling parameter for the harmonic component comprises determining a ratio of the energy of the harmonic component to the energy of the noisy speech signal.

5. The method of claim 4 wherein determining a ratio comprises:

summing the energy of samples of the harmonic component;

summing the energy of samples of the noisy speech signal; and

dividing the sum for the harmonic component by the sum for the noisy speech signal.

6. The method of claim 1 wherein decomposing a portion of a noisy speech signal comprises decomposing a vector of time samples from a frame of the noisy speech signal into a harmonic component vector of time samples and a random component vector of time samples.

7. The method of claim 6 further comprising determining a Mel spectrum for the harmonic component from the harmonic component vector of time samples.

8. The method of claim 7 wherein multiplying the harmonic component by a scaling parameter

comprises multiplying the Mel spectrum for the harmonic component by the scaling factor.

9. The method of claim 8 further comprising forming a Mel Frequency Cepstral Coefficients feature vector from the noise-reduced value.

10. The method of claim 9 further comprising using the Mel Frequency Cepstral Ceofficients feature vector to perform speech recognition.

11. The method of claim 1 further comprising using the noise-reduced value to perform speech recognition.

12. The method of claim 1 further comprising using the noise-reduced value in speech coding.

13. A computer-readable medium having computer-executable instructions for performing steps comprising:

identifying a harmonic component and a random component in a noisy speech signal;

combining the harmonic component and the random component to produce a noise-reduced value; and

using the noise-reduced value to perform speech recognition.

14. The computer-readable medium of claim 13 wherein identifying a harmonic component comprises modeling the harmonic component as a sum of harmonic sinusoids.

15. The computer-readable medium of claim 14 wherein identifying a harmonic component further comprises identifying a least-squares solution.

16. The computer-readable medium of claim 13 wherein identifying a harmonic component comprises identifying a vector of time samples representing a harmonic component.

17. The computer-readable medium of claim 16 wherein identifying a harmonic component further comprises converting the vector of time samples into a Mel spectrum for the harmonic component.

18. The computer-readable medium of claim 13 wherein combining the harmonic component and the random component comprises forming a sum with the harmonic component and the random component.

19. The computer-readable medium of claim 18 wherein the sum is a weighted sum formed in part by multiplying the harmonic component by a scaling value for the harmonic component.

20. The computer-readable medium of claim 19 further comprising determining the scaling value for the harmonic component by determining a ratio of the energy of the harmonic component to the energy of the noisy speech signal.

21. The computer-readable medium of claim 20 wherein the scaling value for the harmonic component is separately determined for each frame of the noisy speech signal.

22. The computer-readable medium of claim 21 wherein the weighted sum is further determined by multiplying the random component by a scaling value for the random component.

23. The computer-readable medium of claim 22 wherein the scaling value for the random component is fixed for each frame of the noisy speech signal.

24. The computer-readable medium of claim 13 wherein using the noise-reduced value to perform speech recognition comprises converting the noise-reduced value into a feature vector and using the feature vector as input to a speech recognition system.

25. The computer-readable medium of claim 24 wherein the feature vector comprises a Mel Frequency Cepstral Coefficient feature vector.